

REMARKS

Upon entry of this Response, claims 1, 5, 10-13, and 24 will be amended, claims 2-4, 6-9, 14-23, and 25-28 will be canceled, and claims 29-34 will be newly added. Thus, claims 1, 5, 19-24, and 29-34 will be pending. No new matter has been added. Reconsideration and further examination are respectfully requested in view of the following Remarks.

As a preliminary matter, Applicants respectfully request reconsideration of the provisional obviousness-type double patenting rejection in view of the amendments to the pending claims.

Claims 1-28 are rejected under 35 USC 102 as being anticipated by US Patent No. 5,056,058 ("Hirata").

As amended, claim 1 recites "speculating, based on a receive packet, a connection that will subsequently have a send packet to be processed in accordance with a transmission control protocol." For example, as described in the specification:

At 402, a device predicts or "speculates" that a connection will subsequently have a packet to be processed in accordance with a transmission control protocol (e.g., TCP). For example, the offload engine 270 or host processor 210 may speculate that a particular connection will subsequently have a packet that will be received by (or that will be sent from) the server 200.

Specification as originally filed at page 5, lines 25 through 29. In this way, a control block associated with that connection might be pre-fetched from an external memory to improve the performance of the system (especially when the system manages a large number of connections).

Hirata does not "speculat[e] ... a connection that subsequently have a send packet" as recited in claim 1 as amended. Instead, according to Hirata:

In the present invention, ... the class of the next received frame is predicted from the content of the former transmit or receive processing so that the header components of the predicted received frame are gathered from the connection management Table 705 and prepared as the receive processing header 703 in a table 706.

Col. 6, lines 8 through 14 (emphasis added). That is, while Hirata might predict the type of frame that might be subsequently processed, it does not predict the connection that will be associated with that frame as is now recited in claim 1.

Moreover, Hirata does not teach or suggest “dynamically calculating a time when a protocol control block, associated with the speculated connection, is to be pre-fetched ... wherein the time is calculated in accordance with an estimated processing time associated with the receive packet less an estimated latency time associated with pre-fetching the ... block from the external memory unit” as is now recited in claim 1. The portions cited of Hirata in connection with previously pending claims 2-5 do not support such a conclusion. Instead, Hirata merely discloses that the various processing and/or fetching times associated with a system might vary depending on how the system is designed.

The remaining claims depend from claim 1, or contain similar limitations, and should be allowable for at least the same reasons.¹

Applicants further note that claim 5 now recites “dynamically adjusting, based on other packets that have been processed, at least one of: (i) the estimated processing time, or (ii) the estimated latency time.” As described in the specification, for example:

Note that $T_{\text{ROUND-TRIP}}$ could vary for any number of reasons (e.g., due to network congestion). Similarly, T_{LATENCY} might change over a period of time (e.g., because of memory accesses being performed for other reasons). As a result, these estimated values might be dynamically adjusted (e.g., by the offload engine 270 and/or the host processor 210) to improve the performance of the server 200. For example, information from the TCP/IP stack might be used to dynamically adjust the estimated $T_{\text{ROUND-TRIP}}$ for a connection.

Specification as originally filed at page 10, lines 11 through 17. Nothing in Hirata remotely discloses or suggests such a feature and this is an additional reason why claim 5 should be allowable.

CONCLUSION

Accordingly, Applicants respectfully request allowance of the pending claims. If any issues remain, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is kindly invited to contact the undersigned via telephone at (203) 972-0191.

Respectfully submitted,

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/Patrick J. Buckley/
Patrick J. Buckley
Registration No. 40,928
Buckley, Maschoff & Talwalkar LLC
Attorneys for Intel Corporation
50 Locust Avenue
New Canaan, CT 06840
(203) 972-0191

¹ While claim 1 is directed to “speculating, based on a send packet, a connection that will subsequently have a receive packet,” Applicants note that other claims recite “speculating, based on a send packet, a connection that will subsequently have a receive packet.”